

U.S. Department of the Interior – National Park Service  
Craters of the Moon National Monument and Preserve

## Environmental Assessment

### Visitor Center Expansion And Renovation



**Summary:** The National Park Service proposes to renovate and build new additions to the visitor center at Craters of the Moon National Monument and Preserve. The renovations would upgrade existing or add new heating and cooling systems, electrical power components, roof, energy efficiency, and fire sprinkler systems. The additions will provide an indoor setting for interpretive programs (maximum of 1900 square feet-minimum of 990 square feet), storage space for museum artifacts, and workspace for staff (1830 square feet). The design of the additions is intended to compliment but not duplicate the appearance of the existing building. The visitor center complex has been found eligible for listing on the National Register of Historic Places. The visitor center's complex's eligibility is based upon being very representative of an architectural style typical of the National Park Service's Mission 66 Program and the continued integrity of that design.

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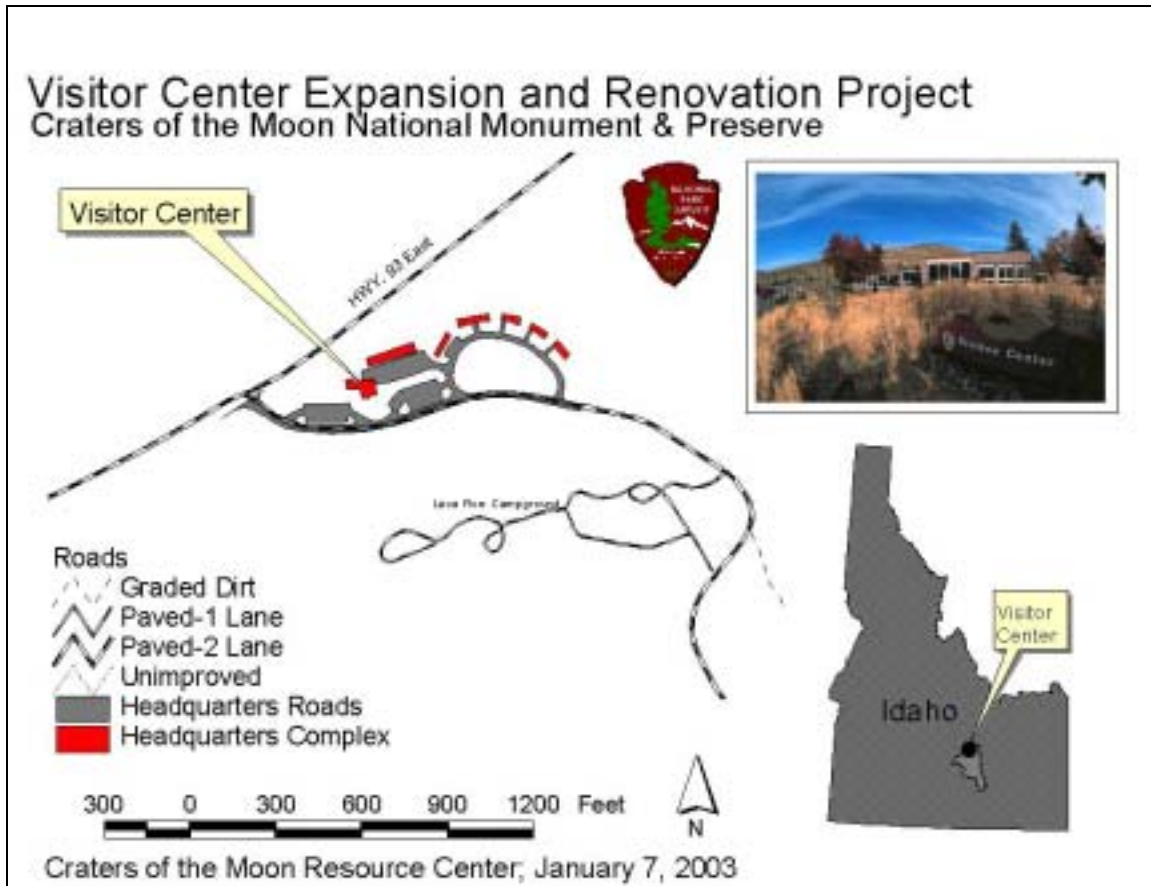
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## Purpose and Need for Action

The National Park Service proposes to renovate and enlarge the Visitor Center at Craters of the Moon National Monument and Preserve (CRMO). The renovations address deficiencies in the electrical system, heating and cooling system, fire safety, roof and energy efficiency of the existing building. The proposed building additions address needs for suitable storage of museum artifacts, an audiovisual room for education programs, and additional library/office space. Two additions are proposed. The west addition would house up to a 1,900 square foot audiovisual room for public presentations. The east addition would include a dedicated and climate controlled museum storage space for artifacts as well as a library and workspace totaling 1,830 square feet.<sup>1</sup>



**Figure 1. Location Map of Visitor Center Project**

The Visitor Center is located 200 feet south of U.S. Highway 93/20/26 approximately eighteen miles west of Arco, Idaho. The building was completed in 1958 as one part of a headquarters complex that includes maintenance buildings and employee residences. The entire complex was designed and built as part of the Mission 66 program (a ten-year effort to upgrade the facilities within the National Park System). Prior to the Mission 66

<sup>1</sup> Shortfalls in appropriated funds may result in smaller additions depending upon actual costs.

construction, the monument's structures consisted of a loose collection of log cabins, out buildings and tents that were built in the late 1920s and early 1930s.

Existing storage space for Monument museum artifacts and archives does not meet dozens of National Park Service museum standards requiring secured, dedicated and climate controlled storage space. Electrical systems within the VC are inadequate to handle expanding demands from modern office equipment. The Visitor Center lacks a cooling system and interior temperature during the summer can exceed 90° F. Lack of workspace has required converting employee housing into office space. Indoor programs (including audiovisual) are limited by existing space to no more than ten people at a time.

The monument's current General Management Plan (USDI/NPS 1992) identified many of these same problems with the Visitor Center. The plan designated the Visitor Center area as a "development" zone. The plan also recommended moving the public functions of the existing building to a new structure to be built on a new entrance road east of the existing Visitor Center. Expanding and rehabilitating the existing visitor center was an alternative to that approach discussed in the draft general management plan (USDI/NPS 1991). That alternative was not adopted because it did not address issues related to access off the state highway. Subsequently, park management, in consultation with the regional office, determined that greater value and fewer disturbances to the natural resources of the park would be achieved by renovating and expanding the existing visitor center. Decisions resulting from this assessment would be considered an amendment to the 1992 plan. Following a major expansion of the Monument in 2000, a new General Management Plan is being developed and should be completed in 2004.

The modern architecture design evident in the Craters of the Moon National Monument visitor center typified Mission 66 development. The national park "Visitor Center" as it is known today is a Mission 66 innovation. The concept of a single building incorporating public facilities, interpretive programs and administrative functions originated during the Mission 66 program. The Craters of the Moon National Monument headquarters complex, including the visitor center, was recently determined to be eligible for nomination to the National Register of Historic Places. In accord with the National Historic Preservation Act, consultation with the Idaho State Historic Preservation Officer has been initiated concerning this proposal.

### 1.1 Project Objectives:

- 1) Provide museum storage that meets National Park Service museum standards.
- 2) Provide an indoor space capable of presenting audiovisual programs to groups up to 30 people.
- 3) Address health and safety deficiencies of the existing building.
- 4) Provide adequate workspace for interpretive and administrative staff functions in the visitor center.
- 5) Improve energy efficiency and lower long-term maintenance costs through sustainable design.

Internal scoping to determine potential issues was initiated in 2001. Resource professionals of the National Park Service's Pacific West Region and Denver Service Center and CRMO staff participated in the internal scoping. This interdisciplinary process defined the purpose and need, identified potential actions to address the need, determined what the likely issues and impact topics would be, and identified the relationship, if any, of the proposed action to other planning efforts at the monument. Informal consultation was also initiated at that time with the Idaho State Historic Preservation Officer.

#### Relevant issues identified:

- 1) Potential adverse effects of proposed additions on the eligibility of the headquarters complex for the National Register of Historic Places. The primary concerns related to the external appearance of new additions and a proposed pitched roof to replace the existing flat roof.
- 2) Extent of new ground disturbance created by additions to the building.
- 3) Adverse effects on museum collections.
- 4) Disruption of visitor services and experiences.

#### Impact Topics

##### Historic Structures-

The National Historic Preservation Act, as amended in 1992 (16 USC 470 *et seq.*); the National Environmental Policy Act of 1969 (42 USC 4321 *et seq.*); and the National Park Service's Director's Order #28, *Cultural Resource Management Guideline* (1997), *Management Policies, 2001* (2000), and Director's Order #12, *Conservation Planning, Environmental Impact Analysis, and Decision Making* (2001) require the consideration of impacts on historic structures and buildings listed in or eligible for listing in the National Register of Historic Places.

Museum Collections – Craters of the Moon's museum collection contains 10,518 items including biological and geologic specimens, historic artifacts and archival materials. The collection is housed in a building formerly used as employee housing. This storage area lacks climate control or a fire sprinkler system and is also used as office space. NPS museum standards require collection storage areas to be physically secured with limited access, climate controlled to prevent damage to artifacts from fluctuations in humidity, and be provided with fire and intrusion alarms. Because the proposed action and the no action alternative have widely different effects on storage conditions for the collection, museum collections will be addressed as an impact topic in this environmental assessment.

##### Visitor Experience-

Craters of the Moon National Monument Visitor Center is open year round except federal holidays during winter months. The monument averages about 200,000 visitors per year

with peak visitation occurring from mid-May through September. The principal visitor activities are touring the visitor center/museum, viewing an orientation film, taking the self-guided driving tour of the seven mile loop road, and hiking the many trails off the loop road. The average length of stay is less than four hours.

Because additions and renovations to the visitor center would impact visitor use and experience at Craters of the Moon National Monument, visitor use and experience will be addressed as an impact topic in this environmental assessment.

#### Operations-

The visitor center (lobby, information desk, audiovisual room, museum, and restrooms) also includes administrative offices, a book sales area, and a library/conference/break room. Since renovating the interior of the visitor center would impact staff use of non-public areas in the building, monument operations will be addressed as an impact topic in this environmental assessment.

#### Impact Topics Dismissed from Further Analysis

##### Geology and Topography:

National Park Service's *Management Policies, 2001* (2000) require the protection of significant geologic and topographic features. Craters of the Moon National Monument spans 60 miles of the Snake River Plain from the Pioneer Mountains to the Snake River. This showcase of volcanic formations, including lava flows, cinder cones, and craters, was created by a fissure about 50 miles (80 kilometers) long in the Earth's crust. Through this zone of weakness, known as the Great Rift, lava frequently welled up to the surface over thousands of years. With each successive series of eruptions, older volcanic formations were buried, and new ones were superimposed on their surfaces. The barren black lava flows were emitted during the most recent eruptions, which occurred approximately 2,000 years ago.

The visitor center project area lies on top of deep (15-20 feet) volcanic ash deposits (Kuntz, et.al., 1988). Immediately south of the VC lies a pahoehoe slab lava flow.

Excavation of foundations for the two additions and realignment of sewer and water lines would not affect any geological features. Contours of the entire project area were altered during the original construction in the late 1950s. Once the construction is completed, the disturbed ground would be restored to its pre-construction contour and condition. The existing topography of the land would not change. Because there would be no impacts to geological features and the topography of the ground would be unchanged, geology and topography were dismissed as impact topics.

##### Prime and Unique Farmlands:

In August, 1980, the Council on Environmental Quality (CEQ) directed that federal agencies must assess the effects of their actions on farmland soils classified by the U.S.

Department of Agriculture's Natural Resource Conservation Service as prime or unique. Prime or unique farmland is defined as soil that particularly produces general crops such as common foods, forage, fiber, and oil seed; unique farmland produces specialty crops such as fruits, vegetables, and nuts. Soils, climate, and National Monument status preclude farming activities. The proposed action would result in neither the degradation nor irreversible conversion of existing prime farmland to nonagricultural uses. Therefore, the topic of prime and unique farmland was dismissed as an impact topic.

#### Air Quality:

Section 118 of the 1963 Clean Air Act (42 U.S.C. 7401 *et seq.*) requires a park unit to meet all federal, state, and local air pollution standards. Craters of the Moon National Monument Wilderness Area (a minimum of one mile from the project area) is designated a Class I air quality area under the Clean Air Act, as amended. In that Act, Congress created a "Prevention of Significant Deterioration" (PSD) Section, the purpose of which is "to preserve, protect, and enhance the air quality in national parks, national wilderness areas and other areas of special national or regional natural, recreational, scenic, or historic value." Specifically, the PSD section reflected the law's intention that, among the clean air regions of the country, certain areas - the Class I areas - deserve the highest level of air quality protection. Impairment of visibility within Class I Areas was a major concern addressed in the Clean Air Act. Integral vistas include those views perceived from within Class I areas of a specific landmark or panorama located outside the boundary of a Class I area. The remainder designated of the monument is designated as a Class II area. The allowable increases for Class II areas are higher than those established for Class I areas.

Hauling material, operating equipment and other construction activities could result in temporarily increased vehicle exhaust and emissions. However, hydrocarbons, NO<sub>x</sub>, and SO<sub>2</sub> emissions, as well as any airborne particulates created by fugitive dust plumes, would be rapidly dissipated by air drainage because air stagnation is rare at the project site. Overall, there could be a negligible degradation of local air quality; however, such effects would be temporary, lasting only as long as construction. Craters of the Moon Wilderness Area's Class I air quality would not be unaffected by the proposal. Therefore, air quality was dismissed as an impact topic.

#### Water Resources (Water Quality, Wetlands, and Floodplains):

National Park Service policies require protection of water quality consistent with the Clean Water Act. Section 404 of the Clean Water Act authorizes the U.S. Army Corps of Engineers to prohibit or regulate, through a permitting process, discharge of dredged or fill material or excavation within U.S. waters.

The volcanic basalt surrounding the project area is highly porous and therefore surface water drainage is largely absent. Springs and wells 4000-8000 feet northwest of the VC in the Pioneer Mountains provides domestic and irrigation water to the headquarters complex. Lawns and some trees are irrigated.



The proposed action, which is confined to the visitor center, the adjacent parking area, and associated water and sewer lines, would have no effect on the water resources or the monument's domestic water supply.

Executive Order 11990, *Protection of Wetlands*, requires federal agencies to avoid, where possible, adversely impacting wetlands. Proposed actions that have the potential to adversely impact wetlands must be addressed in a Statement of Findings. The proposed action is confined to the visitor center and staging and stockpiling would occur on the adjacent, asphalt parking area. There would be no impacts to wetlands. A Statement of Findings for wetlands will not be prepared.

Executive Order 11988, *Floodplain Management*, requires all federal agencies to avoid construction within the 100-year floodplain unless no other practicable alternative exists. Certain construction within a 100-year floodplain requires preparation of a Statement of Findings. The visitor center and adjacent parking area, site of staging and stockpiling, is outside the floodplain. A Statement of Findings for floodplains will not be prepared.

Because water quality would be unaffected by the proposed action and there would be no impacts to either wetlands or floodplains, water resources was dismissed as an impact topic.

#### Biotic Communities:

The National Environmental Policy Act of 1969 (42 USC 4321 *et seq.*) calls for an examination of the impacts on all components of affected ecosystems. National Park Service policy is to maintain all the components and processes of naturally evolving park unit ecosystems, including the natural abundance, diversity, and ecological integrity of plants and animals (National Park Service *Management Policies*, 2001).

The project area had been altered during construction of the adjacent highway and visitor center. After construction of the VC in the 1950s the site had been planted in a mix of both native and nonnative plants including extensive lawn areas. Much of the lawn area was later converted to drought resistant native shrubs and grasses. Wildlife use of the immediate area includes mule deer, mountain cottontails, yellow pine chipmunks, golden mantle ground squirrels, and ravens.

Construction related noise could potentially disturb transient wildlife but such adverse impacts would be temporary, lasting only as long as construction, and negligible. Therefore, biotic communities were dismissed as an impact topic.

#### Threatened, Endangered, and Candidate Species and Species of Special Concern:

The Endangered Species Act (1973) requires an examination of impacts on all federally listed threatened or endangered species. National Park Service policy also requires examination of the impacts on federal candidate species, as well as state-listed threatened, endangered, candidate, rare, declining, and sensitive species. The federally listed

threatened or endangered species, candidate species, and species of special concern that may be potentially found in Butte County Idaho County include:

Table 2, T&E Species Potentially Found in Butte County, Idaho

Common Name	Scientific Name	Status
gray wolf	<i>Canis lupus</i>	Endangered
Bald Eagle	<i>Haliaeetus leucocephalus</i>	Threatened

Gray wolves range over large areas of the central Idaho Mountains and are potential transients within the monument, but there are no documented sightings in the vicinity of this project. Bald eagles are potential transients in the monument, but monument lands in vicinity of this project are not vital for feeding or breeding. Construction related noise could potentially disturb transient bird species but such adverse impacts would be temporary, lasting only as long as construction, and negligible. Therefore, the topic of threatened, endangered, and candidate species and species of special concern was dismissed as an impact topic.

#### Ethnographic Resources and Cultural Landscapes:

The National Historic Preservation Act, as amended in 1992 (16 USC 470 *et seq.*); the National Environmental Policy Act of 1969 (42 USC 4321 *et seq.*); and the National Park Service's Director's Order #28, *Cultural Resource Management Guideline* (1997), *Management Policies, 2001* (2000), and Director's Order #12, *Conservation Planning, Environmental Impact Analysis, and Decision Making* (2001) require the consideration of impacts on ethnographic resources and cultural landscapes listed in or eligible to be listed in the National Register of Historic Places.

Ethnographic Resources: Ethnographic resources are defined by the National Park Service as any "site, structure, object, landscape, or natural resource feature assigned traditional legendary, religious, subsistence, or other significance in the cultural system of a group traditionally associated with it" (Director's Order # 28, *Cultural Resource Management Guideline*, 191).

American Indian tribes traditionally associated with the lands of CRMO and others with whom monument staff regularly consults, are concerned about ground disturbance at the monument and the potential discovery of human remains, funerary objects, sacred objects, or objects of cultural patrimony. Excavating a trench for installation of the water and sewer lines (about 18-inches wide, 42-inches deep, and 125 feet in length) would occur on land previously disturbed by past construction activities, including the previous installation of underground utilities. Although inadvertent discoveries are unlikely, in the event that human remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered during construction, provisions outlined in the Native American Graves Protection and Repatriation Act (25 USC 3001) of 1990 would be followed. All items would be left *in situ* and the trench would be rerouted to avoid further disturbance. Copies of the environmental assessment/ assessment of effect will be

forwarded to each affiliated tribe or group for review and comment. If subsequent issues or concerns were identified, appropriate consultations would be undertaken. Because it is very unlikely that ethnographic resources would be affected, and because appropriate steps would be taken to protect any human remains, funerary objects, sacred objects, or objects of cultural patrimony inadvertently discovered, ethnographic resources was dismissed as an impact topic.

#### Indian Trust Resources:

Secretarial Order 3175 requires that any anticipated impacts to Indian trust resources from a proposed project or action by Department of Interior agencies be explicitly addressed in environmental documents. The federal Indian trust responsibility is a legally enforceable fiduciary obligation on the part of the United States to protect tribal lands, assets, resources, and treaty rights, and it represents a duty to carry out the mandates of federal law with respect to American Indian and Alaska Native tribes.

There are no Indian trust resources within project area of Craters of the Moon National Monument. Therefore, Indian trust resources were dismissed as an impact topic.

#### Soundscape Management:

In accordance with National Park Service *Management Policies* (2001) and Director's Order #47, *Sound Preservation and Noise Management*, an important part of the National Park Service mission is preservation of natural soundscapes associated with national park units. Natural soundscapes exist in the absence of human-caused sound. The natural ambient soundscape is the aggregate of all the natural sounds that occur in park units, together with the physical capacity for transmitting natural sounds. Natural sounds occur within and beyond the range of sounds that humans can perceive and can be transmitted through air, water, or solid materials.

Hauling material, operating equipment and other construction activities could result in dissonant, human-caused sounds. However, all construction activity would occur in the developed area of Craters of the Moon National Monument, where protection of a natural ambient soundscape and/or opportunity for visitors to experience natural sound environments is not an objective. The project area lies directly adjacent to U.S. Highway 93 with obvious traffic noise. Any dissonant sounds associated with construction would be temporary, lasting only as long as the construction activity generating the sound, and would negligibly impact visitor enjoyment of the monument. So soundscape management was dismissed as an impact topic.

#### Lightscape Management:

In accordance with National Park Service *Management Policies* (2001), the National Park Service strives to preserve natural ambient landscapes, which are natural resources and values that exist in the absence of human caused light. CRMO strives to limit the use of artificial outdoor lighting to that which is necessary for basic safety requirements and to ensure that all outdoor lighting is shielded to the maximum extent possible, to keep light

on the intended subject and out of the night sky. The proposed action would not affect the existing exterior lighting of the visitor center or parking area. Therefore, lightscape management was dismissed as an impact topic.

#### Socioeconomic Environment:

The proposed action would neither change local and regional land uses nor appreciably impact local businesses or other agencies. Implementation of the proposed action could provide a negligible beneficial impact to the economies of nearby Arco or Carey, as well as Butte County (e.g. minimal increases in employment opportunities for the construction workforce and revenues for local businesses and government generated from construction activities and workers). Any increase, however, would be temporary and negligible, lasting only as long as construction. Therefore, socioeconomic environment was dismissed as an impact topic.

#### Environmental Justice:

According to the Environmental Protection Agency, environmental justice is the fair treatment and meaningful involvement of all people, regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations and policies. Fair treatment means that no group of people, including a racial, ethnic, or socioeconomic group should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies.

Presidential Executive Order 12898, "General Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," requires all federal agencies to incorporate environmental justice into their missions by identifying and addressing the disproportionately high and/or adverse human health or environmental effects of their programs and policies on minorities and low-income populations and communities. The proposed action would not have health or environmental effects on minorities or low-income populations or communities as defined in the Environmental Protection Agency's Draft Environmental Justice Guidance (July 1996). Therefore, environmental justice was dismissed as an impact topic.

## **2.0 Alternatives Including the Proposed Action**

This chapter describes the alternatives (potential actions) and summarizes the environmental consequences of the alternatives. Alternatives include a reasonable range of options all of which achieve the purpose and need of the proposal.

### **2.1 Alternative A – No Action**

The no action alternative provides a basis of comparison to other alternatives. In this case no action means no changes to the existing Visitor Center other than routine maintenance. No additions would be built and no changes in the heating/cooling, electrical, roof or fire sprinkler systems would be done.

This alternative does not meet the purpose and need objectives presented in chapter one. It is presented for the purpose of comparison.

## 2.2 Alternative B – Proposed Action (Upgrade Existing Structure and Build Additions)

This alternative involves additions on the east and west ends of the existing visitor center (See Appendix A & B) as well as major renovation of the roof, electrical and heating and cooling system of the existing building.

The 1830 square foot east addition would house museum collection storage, two offices, a library/meeting room, and janitorial and electrical service areas surrounding a central workroom. This addition would be located flush with the north wall of the existing building and extend an additional 44 feet to the east. The east addition is set back from the 21 feet from the front of the existing structure.



**Figure 2 . View of east side of existing Visitor Center**

The 682 square foot west addition would house an audiovisual room seating up to 35 persons for public presentations. Included in this addition is extension of the existing 10.5-foot wide vestibule another 28.75 feet across the south end of the addition. This addition would be designed to permit a future 1200 square foot expansion to the north to achieve a seating capacity of up to 65 people. Both additions would be built on a four-inch concrete slab on grade over six inches of granular fill. The VC flat roof would be replaced with a butadiene styrene granulated cap sheet.



**Figure 3. View of the west side of the Visitor Center**

The floor plan of the existing building would remain unchanged. New ceiling ducts for the cooling system would be installed throughout the existing building and additions. The one exception would be in the curatorial storage room that would have sidewall grilles. Fluorescent lighting fixtures would be replaced throughout the building. A fire sprinkler system would be installed throughout the existing building and new additions. Windows with moveable panels through the existing building would be replaced with energy efficient double pane glass.

The existing central heating system would be replaced with individual forced air heaters for each workspace. A central forced air evaporative cooling system would be added for all existing public and workspace. The evaporative cooling system would also cool all of the new additions with the exception of the museum storage area. The museum storage area would be climate controlled with an air conditioner. Evaporative coolers and air conditioner compressor equipment would be located on the east side of the VC at ground level. Two additional evaporative cooling units supplying the west portion of the building would be located along the north side of the building. The existing brick wall on the east side of the VC would be relocated to screen the view of this utility equipment from the public side (south) of the building. An existing gate and side walk that provides access between the public and administrative side of the wall would be relocated to a position approximately 45 feet east of its current location.

New work and storage space in the east addition would facilitate more efficient arrangement of staff functions. Administrative staff would be relocated to space adjacent to the Superintendent's office, thereby freeing their current office space in the maintenance building for maintenance functions. Relocating the museum collection to dedicated space in the east addition would alleviate crowding in the Resource Management office.

Table 2

COMPARATIVE SUMMARY OF ALTERNATIVES	
Alternative A (No Action)	Alternative B (Proposed Action (Upgrade Existing Structure and Build Additions))
<b>Historic Structures</b> – This alternative would have no effect on the historic values of the VC. Over the long-term failure to address the deteriorating roof could result in damage to building.	<b>Historic Structures</b> – This alternative would involve two major additions to the building and renovations to the interior of the original building utilities. The additions are designed to be compatible with the original design without attempting to duplicate it. The additions are limited to one structure in the original Mission 66 headquarters complex. The complex is eligible for listing on the National Register of Historic Places.
<b>Museum Collections</b> - Museum collections would remain stored in temporary accommodations without adequate climate control, fire protection or physical security.	<b>Museum Collections</b> - Museum collections would be moved to a dedicated space with adequate climate controls, fire protection and physical security features to meet NPS museum standards.
<b>Visitor Experience</b> – No action would not result in short-term disruptions to visitor services or the quality of visitor services as they currently exist. This alternative would not address high summer temperatures in public spaces of the VC nor the need for a larger space for indoor presentation of interpretive programs.	<b>Visitor Experience</b> – This alternative would result in short-term disruptions of visitor services and the quality of visitor services during the one year construction period. In the long-term, visitor experiences would be improved by providing a facility to provide interpretive programs to larger groups. Visitor comfort while visiting the VC would be improved during the summer months by the addition of a cooling system.
<b>Operations</b> – Alternative A would not result in short-term disruptions to operations staff during construction activities. This alternative would not address high summer temperatures in administrative areas of the VC nor the need for climate controlled museum storage and additional workspace. This alternative would also not address electrical, fire safety, and energy efficiency deficiencies in the building. This alternative would not replace the existing roof and continue to require annual maintenance to repair leaks.	<b>Operations</b> - Alternative B would result in short-term disruptions to operations staff during construction activities. This alternative would address high summer temperatures in administrative areas of the VC and the need for climate controlled museum storage and additional workspace. This alternative would also address electrical, fire safety, and energy efficiency deficiencies in the building. This alternative would replace the existing roof and decrease annual maintenance.

## 2.3 ENVIRONMENTALLY PREFERRED ALTERNATIVE

The environmentally preferred alternative is determined by applying the criteria suggested in the National Environmental Policy Act of 1969 (NEPA), which is guided by the Council on Environmental Quality (CEQ). The CEQ provides direction that “[t]he



environmentally preferable alternative is the alternative that will promote the national environmental policy as expressed in NEPA's Section 101....:"

- fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
- assure for all generations safe, healthful, productive, and esthetically and culturally pleasing surroundings;
- attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences;
- preserve important historic, cultural and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choice;
- achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities; and
- enhance the quality of renewable resources and approach the maximum attainable recycling of resources.

Alternative B, the preferred alternative, is the environmentally preferred alternative. Because implementing the preferred alternative would improve visitor comfort in the visitor center; increase the space available for presenting audiovisual programs concerning the monument's primary interpretive themes; provide climate controlled museum artifact storage; provide adequate office and work space for staff and improve energy efficiency. Alternative B more fully promotes "...safe, healthful, productive, and esthetically and culturally pleasing surroundings..." Through sensitive design of the exterior of a historic structure, Alternative B also integrates resource protection with opportunities for an appropriate range of visitor uses, which "preserve(s) important historic, cultural and natural aspects of our national heritage..." while providing "...an environment that supports diversity and variety of individual choice."

#### Mitigation Measures of the Preferred Alternative:

1. Locate construction staging areas away from public areas.
2. Design new additions to maintain the integrity of the structure's eligibility for the National Register.
3. Undertake work on the public areas of the visitor center during "off-season" periods of the year.
4. A construction zone for trenching and installation of the underground service, as well as a staging and stockpiling zone, would be identified and fenced with construction tape or some similar material prior to any construction activity. The fencing would define the zone and confine activity to the minimum area required for construction activities. All protection measures would be clearly stated in the construction specifications and workers would be instructed to avoid conducting activities beyond the zone as defined by the fencing. In addition, the National Park Service would ensure that all contractors and subcontractors are informed that damage to resources

outside the scope of work is subject to prosecution, fine, restitution costs, and other penalties.

5. Soil cast aside during trenching would be susceptible to some erosion but standard erosion control measures, such as silt fences, sand bags, or straw bales would be used, as necessary, to minimize any potential soil erosion. To avoid introduction of exotic plant species, no hay bales would be used to control soil erosion. Hay often contains seed of undesirable or harmful alien plant species. Therefore, on a case-by-case basis the following materials may be used for any erosion control dams that may be necessary: rice straw, straws determined by the National Park Service to be weed-free, cereal grain straw that has been fumigated to kill weed seed, and wood excelsior bales.
6. Excavated soil would be used for backfilling the trench.
7. If during construction previously undiscovered archeological resources are discovered, all work in the immediate vicinity of the discovery would be halted until the resources could be identified and documented and an appropriate mitigation strategy developed, if necessary, in consultation with the Idaho State Historic Preservation Office. In the unlikely event that human remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered during construction, provisions outlined in the Native American Graves Protection and Repatriation Act (25 USC 3001) of 1990 would be followed.
8. The National Park Service adopted the concept of sustainable design as a guiding principle of facility planning and development. The objectives of sustainability are to design National Park Service facilities to:
  - ✓ minimize adverse effects on natural and cultural values,
  - ✓ reflect their environmental setting,
  - ✓ maintain and encourage biodiversity,
  - ✓ construct and retrofit facilities using energy-efficient materials and building techniques,
  - ✓ operate and maintain facilities to promote their sustainability, and
  - ✓ to illustrate and promote conservation principles and practices through the sustainable design and ecologically sensitive use.

Essentially, sustainability is living within the environment with the least impact on the environment. The proposed action subscribes to and supports the practice of sustainable planning, design, and use of the visitor center/museum.

### **3.0 ENVIRONMENTAL CONSEQUENCES**

#### **METHODOLOGY FOR ASSESSING IMPACTS**

Potential impacts are described in terms of type (are the effects beneficial or adverse?), context (are the effects site-specific, local, or even regional?), duration (are the effects short-term, lasting less than one year, or long-term, lasting more than one year?), and intensity (are the effects negligible, minor, moderate, or major). Because definitions of

intensity (negligible, minor, moderate, or major) vary by impact topic, intensity definitions are provided separately for each impact topic analyzed in this environmental assessment/assessment of effect.

In addition, National Park Service's *Management Policies, 2001* (2000) require analysis of potential effects to determine whether or not actions would impair park resources. The fundamental purpose of the national park system, established by the Organic Act and reaffirmed by the General Authorities Act, as amended, begins with a mandate to conserve park resources and values. National Park Service managers must avoid, or to minimize to the greatest degree practicable, adversely impacting park resources and values. However, the laws do give the National Park Service the management discretion to allow impacts to park resources and values when necessary and appropriate to fulfill the purposes of a park, as long as the impact does not constitute impairment of the affected resources and values. Although Congress has given the National Park Service the management discretion to allow certain impacts within park, that discretion is limited by the statutory requirement that the National Park Service must leave park resources and values unimpaired, unless a particular law directly and specifically provides otherwise. The prohibited impairment is an impact that, in the professional judgment of the responsible National Park Service manager, would harm the integrity of park resources or values. An impact to any park resource or value may constitute impairment, but an impact would be more likely to constitute impairment to the extent that it has a major or severe adverse effect upon a resource or value whose conservation is:

- necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park;
- key to the natural or cultural integrity of the park; or
- identified as a goal in the park's general management plan or other relevant NPS planning documents.

Impairment may result from National Park Service activities in managing the park, visitor activities, or activities undertaken by contractors, and others operating in the park. A determination on impairment is made in the *Environmental Consequences* section for historic structures, visitor experience, and operations.

### **Cumulative Impacts:**

The Council on Environmental Quality (CEQ) regulations, which implement the National Environmental Policy Act of 1969 (42 USC 4321 *et seq.*), require assessment of cumulative impacts in the decision-making process for federal projects. Cumulative impacts are defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions" (40 CFR 1508.7). Cumulative impacts are considered for both the no-action and preferred alternatives.

Cumulative impacts were determined by combining the impacts of the preferred alternative - renovating the interior of the visitor center and two new additions to the visitor center - with other past, present, and reasonably foreseeable future actions. Therefore, it was necessary to identify other ongoing or reasonably foreseeable future projects at Craters of the Moon National Monument and, if applicable, the surrounding region. No reasonably foreseeable future development is anticipated for the Craters of the Moon National Monument visitor center or headquarters complex. Replacement of approximately one mile of the buried water line that delivers water to the headquarters complex is anticipated within the next two years. The NPS does anticipate a new Monument Management Plan within two years to reflect the expansion of the Monument to include areas administered by the U.S. Bureau of Land Management (BLM) and the creation of Craters of the Moon National Preserve. The plan is being jointly developed with BLM and will address additional facilities for visitors and administration.

#### Impacts to Cultural Resources and §106 of the National Historic Preservation Act:

In this environmental assessment, impacts to historic structures are described in terms of type, context, duration, and intensity, as described above, which is consistent with the regulations of the Council on Environmental Quality (CEQ) that implement the National Environmental Policy Act (NEPA). These impact analyses are intended, however, to comply with the requirements of both NEPA and §106 of the National Historic Preservation Act (NHPA). In accordance with the Advisory Council on Historic Preservation's regulations implementing §106 of the NHPA (36 CFR Part 800, *Protection of Historic Properties*), impacts to archeological resources and the cultural landscape were identified and evaluated by (1) determining the area of potential effects; (2) identifying cultural resources present in the area of potential effects that were either listed in or eligible to be listed in the National Register of Historic Places; (3) applying the criteria of adverse effect to affected cultural resources either listed in or eligible to be listed in the National Register; and (4) considering ways to avoid, minimize or mitigate adverse effects.

Under the Advisory Council's regulations a determination of either *adverse effect* or *no adverse effect* must also be made for affected, National Register eligible cultural resources. An *adverse effect* occurs whenever an impact alters, directly or indirectly, any characteristic of a cultural resource that qualify it for inclusion in the National Register, e.g. diminishing the integrity of the resource's location, design, setting, materials, workmanship, feeling, or association. Adverse effects also include reasonably foreseeable effects caused by the preferred alternative that would occur later in time, be farther removed in distance or be cumulative (36 CFR Part 800.5, *Assessment of Adverse Effects*). A determination of *no adverse effect* means there is an effect, but the effect would not diminish in any way the characteristics of the cultural resource that qualify it for inclusion in the National Register.

CEQ regulations and the National Park Service's *Conservation Planning, Environmental Impact Analysis and Decision-making* (Director's Order #12) also call for a discussion of

the appropriateness of mitigation, as well as an analysis of how effective the mitigation would be in reducing the intensity of a potential impact, e.g. reducing the intensity of an impact from major to moderate or minor. Any resultant reduction in intensity of impact due to mitigation, however, is an estimate of the effectiveness of mitigation under NEPA only. It does not suggest that the level of effect as defined by §106 is similarly reduced. Although adverse effects under §106 may be mitigated, the effect remains adverse.

A §106 summary is included in the impact analysis sections for archeological resources and the cultural landscape under the preferred alternative. The §106 Summary is intended to meet the requirements of §106 and is an assessment of the effect of the undertaking (implementation of the alternative) on cultural resources, based upon the criterion of effect and criteria of adverse effect found in the Advisory Council's regulations.

## HISTORIC STRUCTURES/BUILDINGS

### Definitions of Intensity Levels

The visitor center is the largest and only public building in the headquarters complex constructed in the late 1950s as part of the National Park Services' Mission 66 Program. The entire complex was evaluated in July 2000 and determined to be eligible for listing on the National Register of Historic Places. In order for a structure or building to be listed in the National Register, it must be associated with an important historic context *and* possess historic integrity of those features necessary to convey its significance, i.e. location, design, setting, workmanship, materials, feeling, and association. For purposes of analyzing potential impacts to the visitor center, the thresholds of change for the intensity of an impact are defined as follows:

- |             |   |
|-------------|---|
| Negligible: | the impact is at the lowest levels of detection - barely perceptible and not measurable.  |
| Minor:      | the impact would not affect the character defining features of a National Register of Historic Places eligible or listed structure or building.   |
| Moderate:   | the impact would alter a character defining feature(s) of the structure or building but would not diminish the integrity of the resource to the extent that its National Register eligibility is jeopardized.     |
| Major:      | the impact would alter a character defining feature(s) of the structure or building, diminishing the integrity of the resource to the extent that it is no longer eligible to be listed in the National Register. |

## Effects of Alternative A (No-Action Alternative)

There would be no change to existing conditions and no construction related impacts. The existing visitor center is a single story 4,200 square feet building consisting of a series of three rectangles. The structure has a flat roof and parapet. The roofline and building frame in general are an example of Park Modern Architecture. This style is referred to as the “International Style”. “The primary characteristics of the style – emphasis on volume, regular organization of plan, and absence of applied ornament – representing a revolution in architectural design, where traditional methods of craftsmanship were replaced by more efficient methods of machine production” (Allaback, 2000).

Cumulative Impacts: The original building was modified several times over the years. The south facing covered porches were enclosed in glass in 1984. The terrace was extended to the west along the parking area to provide added sidewalks. In 1998, a 200 square foot addition to the public restrooms was completed on the north side of the building to meet ADA requirements for accessibility. Because there would be no change to existing conditions, and no reasonably foreseeable future construction is anticipated for the visitor center, adverse, cumulative impacts would continue but the no action alternative would not contribute, either adversely or beneficially, to the overall adverse, cumulative impact.

Conclusion: There would be no change to existing conditions and no construction related impacts. The overall cumulative impact of past modifications is long-term, adverse, and moderate in intensity, but the no action alternative would not contribute, either adversely or beneficially, to the overall adverse, cumulative impact.

## Effects of Alternative B (Preferred Alternative)

The most obvious effect of the proposed action are the additions to the east and west ends of the building. The proposed additions are designed as single story and rectangular to fit within the existing architectural style. Exterior materials would be designed to complement for not precisely match the existing materials. The addition dimensions would be offset (set back or out) from the existing structure dimensions to make the addition lines distinct from the original structure. The south facing (front or public side) elevation of the building would be extended twenty-nine feet on the west and forty-five feet on the east (See Appendix A and B). The west addition would be several feet higher in elevation than the adjoining end of the existing structure. The east addition would be several feet lower than the adjoining structure. The height of both additions would match the elevation of existing portions of the building.

Three sets of evaporative cooling units (4’X12’X5’) would be located on the exterior of the building at ground level. All of the towers would be located on the north or northeast side of the building away from public view. The visual impact of the additions upon the building would be long-term and moderate in intensity but not adverse (not diminish the

characteristics of the cultural resource that qualify it for inclusion in the National Register).

Several important architectural details on the exterior would be affected by the actions proposed. The existing single pane windows, designed to tilt in or out (depending upon the location) for ventilation, would be replaced with double pane slash windows for energy efficiency and safety. When opened the existing window project into walkways and present safety hazards. Duct work for the new cooling system would be added throughout the existing structure. The ductwork would be run above a drop ceiling. New ceilings would be added to the visitor center lobby areas. The beneficial impact would be long-term and moderate in intensity.

Portions of the visitor center electrical system would be rewired to meet current safety codes. Upgrading the electrical service and rewiring the visitor center/museum's electrical system to meet current safety codes addresses safety concerns by better protecting the historic structure.

Cumulative Impacts: The original building was modified several times over the years. Implementation of the proposed action would not affect important architectural details. No reasonably foreseeable future construction is anticipated for the Craters of the Moon Administration Building-Visitor Center. Although there are some negligible to minor adverse impacts associated with the preferred alternative, overall the cumulative effect of the preferred alternative on the building would be beneficial and minor to moderate in intensity.

Conclusion: Overall, impacts to the building, including cumulative impacts, would be beneficial, long-term, and range in intensity from minor to moderate.

§106 Summary: After applying the Advisory Council on Historic Preservation's criteria of adverse effects (36 CFR Part 800.5, *Assessment of Adverse Effects*), the National Park Service concludes that implementation of the preferred alternative would have *no adverse effect* on the National Register of Historic Places listed Craters of the Moon Administration Building-Visitor Center.

## MUSEUM COLLECTIONS

### Definitions of Intensity Levels

Fire, theft, vandalism, natural disasters, and careless acts may threaten museum collections. The preservation of museum collections is an ongoing process of preventative conservation, supplemented by conservation treatment when necessary. The primary goal is preservation of artifacts in as stable condition as possible to prevent damage and minimize deterioration. For purposes of analyzing potential impacts, the thresholds of change for the intensity of an impact are defined as follows:

- Negligible: the impact is at the lowest levels of detection - barely perceptible and not measurable.
- Minor: the impact is measurable and perceptible, but affects only a few artifacts in the museum collection.
- Moderate: the impact is measurable and perceptible and affects many artifacts in the museum collection.
- Major: the impact is measurable and perceptible and affects a substantial number of artifacts in the museum collection.

### Effects of Alternative A (No-Action Alternative)

The CRMO museum collection consists of 10,518 items including a herbarium of plants found within the Monument and Preserve boundaries; archival and manuscript materials related to the park's history; historical objects; biological and geological specimens; archeological objects systematically recovered from within the Monument boundaries and associated field records. The collection would remain within the two-bedroom duplex (formerly employee housing) used as offices for the Resource Management Division. This structure does not meet a number of NPS museum standards for environmental controls and security.

Cumulative Impacts: Over the decades, lack of adequate curatorial space with appropriate environmental controls has contributed to the deterioration and decay of museum collections at the monument. Such adverse impacts were long-term and are moderate in intensity. The cumulative impacts associated with the no action alternative contribute to this cumulative impact.

Conclusion: There would be an adverse, long-term impact of moderate intensity to the collection.

### Effects of Alternative B (Preferred Alternative)

The museum collection would be moved into a storage space dedicated to that purpose meeting NPS standards for environmental controls and physical security. The impact would be beneficial, long-term, and minor in intensity.

Cumulative Impacts: Over the decades, lack of adequate curatorial space with appropriate environmental controls has contributed to the deterioration and decay of museum collections at the monument. Such adverse impacts were long-term and moderate in intensity. The beneficial cumulative impacts associated with implementation of the preferred would offset the overall adverse cumulative impacts of past actions.



Conclusion: There would be a beneficial, long-term impact of moderate intensity to the entire collection.

## VISITOR USE AND EXPERIENCE

### Definitions of Intensity Levels

Staff observation of visitation patterns and the ability of the visitor to effectively experience and understand resources mentioned in the monument's establishing proclamation were the basis for determining potential impacts of each alternative. For purposes of analyzing potential impacts, the thresholds of change for the intensity of an impact are defined as follows:

- |             |   |
|-------------|---|
| Negligible: | the impact is at the lowest levels of detection - barely perceptible and not measurable.    |
| Minor:      | the impact is slight but detectable, and would affect few visitors.                         |
| Moderate:   | the impact is readily apparent, and would affect many visitors.                             |
| Major:      | the impact is severely adverse or exceptionally beneficial, and would affect most visitors. |

### Effects of Alternative A (No-Action Alternative)

Impacts to visitor use and experience would be adverse, moderate in intensity, and long-term. Indoors interpretive programs would continue to be limited due to a lack of space. High winds and other weather factors often make outdoor group presentations to very difficult. Extreme temperatures in the lobby and exhibit areas of the visitor center would continue to be experienced during the summer.

Cumulative Impacts: High temperatures in the visitor center lobby and exhibit areas during summer would not be alleviated and space for indoors interpretive programs would not be improved. Because no reasonably foreseeable future construction is anticipated for the lobby or other areas of the visitor center, adverse impacts to visitor use and experience would continue and the cumulative impact would be adverse, moderate, and long-term.

Although no construction is associated with the no action alternative, reasonably foreseeable future actions, such as paving portions of the loop road and rebuilding of the Spatter Cones Trail would cumulatively impact visitor use and experience. When future

construction occurs construction vehicles could cause congestion along nearby roads and in the monument's parking area. Such congestion would impact all visitors regardless of travel mode, because private vehicles and tour buses share the same roadways, and would temporarily reduce the quality of experience for visitors. The impacts associated with each individual project would generally be short-term and minor, lasting only as long as construction. However, the number of construction activities occurring simultaneously could magnify the cumulative intensity of such impacts. Cumulative impacts would be short-term, adverse, and range intensity from minor to moderate, depending upon whether or not any of the reasonably foreseeable actions are implemented simultaneously. However, the no action alternative would not be a component of such an overall cumulative impact.

Conclusion: Impacts to visitor use and experience would be adverse, moderate in intensity, and long-term.

#### Effects of Alternative B (Preferred Alternative)

Renovating the interior of the visitor center and building of the west new addition would result in a long-term, moderate beneficial impact upon visitor use and experience by improving visitor comfort during hot summer weather and providing an indoors area for interpretive presentations.

Upgrading the electrical service and rewiring portions of the visitor center electrical system to meet current safety codes would enhance visitor safety. The impact would be long-term, beneficial, and moderate in intensity.

During construction, traffic flow and vehicle access to the visitor center parking area may be temporarily restricted. Construction vehicles, equipment, or material would not be stored outside the boundaries of the identified staging and stockpiling area without prior approval of monument staff. Impacts would be adverse, but minor and short-term, lasting only as long as construction.

The visitor center would remain open during construction, but visitors touring the visitor center during construction could be inconvenienced and experience delays in service. For example, during demolition sections of the visitor center could be temporarily cordoned off with ceiling to wall plastic to control dust. All efforts would be made to reduce any inconveniences for visitors as much as possible, but some visitors inconvenienced by construction activities could be frustrated and may consider any inconveniences or delays interminable. Overall such impacts would be adverse, but minor and short-term, and would not be expected to appreciably affect either the number of visitors to the monument or their average length of stay.

Construction activities would also introduce temporary visual, audible, and atmospheric intrusions into the setting of Craters of the Moon National Monument. Such intrusions could reduce the quality of the visitor experience during the construction period. Impacts would be adverse but construction related only, short-term, and minor.

Construction of the east addition would require the removal of several large trees and relocation of picnic tables currently shaded by those trees. The picnic tables would be relocated to sites within 100 feet of their current location but shade trees in those sites are minimal.

Cumulative Impacts: Construction associated with reasonably foreseeable future actions, such as paving portions of the loop road and rebuilding of the Spatter Cones Trail would cumulatively impact visitor use and experience. When construction occurs, construction vehicles could cause congestion along nearby roads and in the monument's parking area. Such congestion would impact all visitors regardless of travel mode, because private vehicles and tour buses share the same roadways, and would temporarily reduce the quality of experience for visitors. The impacts associated with each individual project would generally be short-term and minor, lasting only as long as construction. However, the number of construction activities occurring simultaneously could magnify the cumulative intensity of such impacts. The short-term, minor, construction related, adverse impacts of the preferred alternative, in conjunction with adverse impacts of other reasonably foreseeable future actions, could result in minor adverse cumulative impacts to visitor use; however, the adverse impacts of the preferred alternative would be a small component of any overall cumulative impact. In addition, any adverse cumulative impacts associated with implementation of the preferred alternative would be partially offset by the moderate beneficial impacts of the actions proposed.

Conclusion: Renovating the interior of the visitor center and building of the west new addition would result in a long-term, moderate beneficial impact upon visitor use and experience by improving visitor comfort during hot summer weather and providing an indoors area for interpretive presentations. Loss of shaded picnic sites would be adverse and long-term but of minor intensity. Construction related impacts would be adverse but short-term and minor.

## OPERATIONS

### Definitions of Intensity Levels

The monument staff's knowledge regarding operational efficiency, protection and preservation of important resources, and providing an effective visitor experience was used to determine the intensity levels of potential impacts. For purposes of analyzing potential impacts, the thresholds of change for the intensity of an impact are defined as follows:

- Negligible: the impact is at the lowest levels of detection – barely perceptible and not measurable.
- Minor: the impact is slight, but detectable.
- Moderate: the impact is readily apparent.

Major: the impact is severely adverse or exceptionally beneficial.

### Effects of Alternative A (No-Action Alternative)

Impacts to monument operations would be adverse, moderate in intensity, and long-term. During mid-summer month's temperatures within the visitor center exceed 90 degrees F. Opening of doors and windows to improve ventilation on hot summer days results in wind blown cinders and grit on computer equipment and introduction of pests (rodents and flies). Attempts to utilize cool nights to cool the building breach physical security. Substandard electrical systems and lack of fire sprinkler systems

Cumulative Impacts: Because no reasonably foreseeable future construction is anticipated for the visitor center, adverse impacts to monument operations would continue and the cumulative impact would be adverse, moderate, and long-term. Reasonably foreseeable future actions at Craters of the Moon National Monument, such as paving portions of the loop road, construction of the Spatter Cones Trail, replacement of the main waterline, could result in short-term, moderate increases in the workloads of the monument's resource management staff, due to increased oversight and visitor assistance needs during construction. The number of construction activities occurring simultaneously could magnify intensity of impacts. Long-term increases in workload resulting from recent establishment of Craters of the Moon National Preserve could result in staff increases to deal with new responsibilities. The adverse effects of a shortage of work and storage space on productivity could be major and long-term.

Conclusion: Impacts to monument operations would be adverse, moderate to major in intensity, and long-term.

### Effects of Alternative B (Preferred Alternative)

Renovations and additions to the visitor center would alleviate high temperatures and facilitate building security during mid-summer months. New work and storage space in the east addition would permit more productive work arrangements. Administrative staff would be relocated adjacent to the Superintendent's office. Maintenance staff could reoccupy space in the maintenance building currently occupied by the administrative staff. Relocation of museum collections into the new east addition would alleviate crowded conditions in the Resource Management offices.

#### Cumulative Impacts:

However, any adverse cumulative impacts associated with reasonably foreseeable actions at the monument would be partially offset by the moderate, beneficial impacts of the preferred alternative.

Conclusion: Implementation of the preferred alternative would result in a moderate, long-term, beneficial impact on monument operations.

## Impairment

Because there would be no major, adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Craters of the Moon National Monument; (2) key to the natural or cultural integrity of the monument; or (3) identified as a goal in the monument's general management plan or other relevant National Park Service planning documents, there would be no impairment of the monument's resources or values.

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## Appendix A

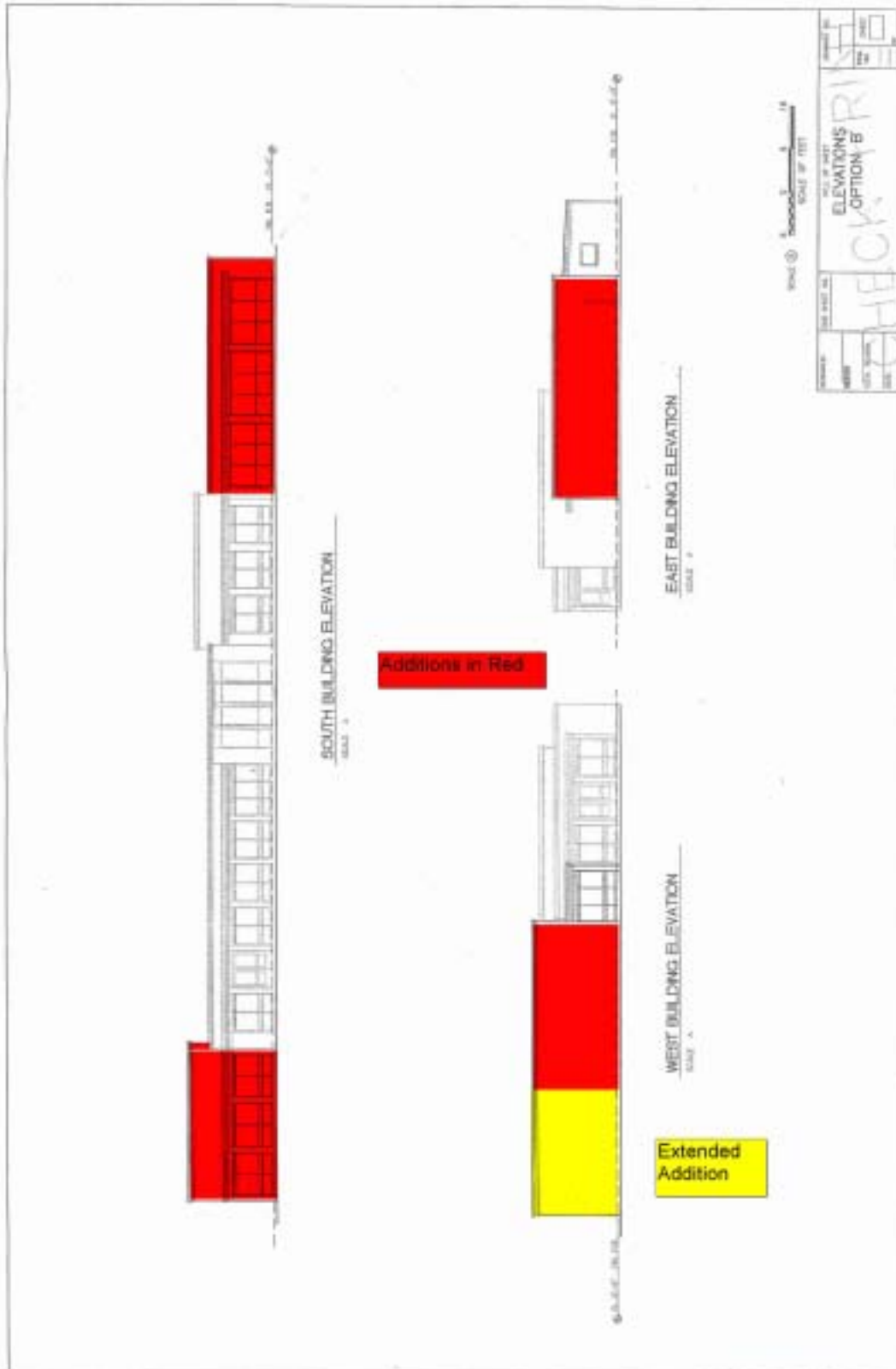


Figure 4. Elevations - Visitor Center with new additions

## Appendix B



Figure 5. Plan View - Visitor Center with new additions



## **Appendix C**

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